

Abstract

Charles University in Prague

Faculty of Pharmacy in Hradec Králové

Department of Biological and Medical Sciences

Student: Mgr. Terezie Poláková

Supervisor of rigorous thesis: PharmDr. Miroslav Kovařík, Ph.D.

Title of rigorous thesis: Association of nutrition substrate utilization and predictors of morbidity and mortality in patients with COPD

Chronic obstructive pulmonary disease (COPD) is not only the respiratory system disease, but it influences total state of health of the patient. Mainly, there are changes of nutrition metabolism in its serious consequences, which could be dangerous for the patient. The typically problem of patients with COPD is loss of the muscle mass.

The main aim of this study was searching for associations between the nutrition substrates utilization and indices, which are used for prediction of morbidity and mortality in COPD patients. We compared 51 patients in all stages of COPD (38 males and 13 females, mean age 67 ± 7 years) with control group of healthy volunteers (4 males and 5 females, mean age 62 ± 4 years).

Measurements were carried out on an outpatient basis by using the indirect calorimetry and determining the amount of urea in urine.

Statistically significant differences between utilization of substrates we evaluated only in relative utilization of proteins in patients with COPD, which has median of value lower for 5 % than the control group. The utilization of carbohydrates and lipids were not significantly different between patients with COPD and healthy volunteers.

Results of the study approved significant association between utilization of lipids and predictors of morbidity and mortality in females.

Key words: chronic obstructive pulmonary disease, nutrition substrate utilization, indirect calorimetry, BODE index